

**ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AMES RESEARCH CENTER
AND
JOBY AERO, INC.
UNDER SPACE ACT UMBRELLA AGREEMENT NO. 35648 / SAA2-403660
(ANNEX NUMBER ONE)**

ARTICLE 1. PURPOSE

This Annex One to the Non-Reimbursable Space Act Umbrella Agreement SAA2-403660 (the “Umbrella Agreement”) between Joby Aero, Inc. (“Joby” or “Partner”) and NASA Ames Research Center (“NASA or “NASA ARC”) shall be for the purpose of collaborating on the development of automated production processes for thermoplastic composite propeller components. The objective of this proof-of-concept work will be to demonstrate that these safety-critical components can be manufactured quickly and more accurately using automated production processes for thermoplastic composite components. NASA and Joby will develop and demonstrate advanced production processes to create thermoplastic composite propeller blade components designed for a future iteration of the Joby S4 eVTOL aircraft. This collaboration will generate an experience base for NASA in the production of thermoplastic composite components for safety-critical aerospace applications and data that can be used in the development of certification criteria for thermoplastic composite production processes and components for aerospace applications.

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the Space Act, Other Transactions Authority (OTA), 51 U.S.C. § 20113(e).

Each capitalized term used in this Annex, but not defined herein, shall have the meaning ascribed to it in the Umbrella Agreement.

ARTICLE 2. RESPONSIBILITIES

A. NASA ARC will use reasonable efforts to:

1. Operate and maintain the automated composite manufacturing facility in Bldg N210 at NASA Ames in support of the development of thermoplastic composite material manufacturing processes for propeller components.
2. Modify the automated manufacturing facility in Bldg N210 at NASA ARC to achieve required mold heating and cooling requirements.
3. Grant Partner observational access to the manufacturing process in Bldg 210 consistent with NASA safety guidelines, when appropriate.

4. Provide composite manufacturing subject matter experts (SME) to work with SMEs with similar expertise from Joby in the development of automated composite manufacturing processes and manufacture of propeller components.
5. Provide access to all manufacturing process data produced during the execution of this Annex.
6. Comply with all NASA, OSHA, and Ames requirements related to the modification, maintenance, and operation of the automated composite manufacturing facility.

B. Joby will use reasonable efforts to:

1. Provide all composite raw materials that meet NASA ARC safety criteria.
2. Provide all composite component tooling required for the manufacture of composite propeller components that meets the facility safety criteria.
3. Provide required background engineering data and performance specifications for the composite propeller components to be manufactured.
4. Provide composite manufacturing subject matter experts (SME) to work with SMEs with similar expertise from NASA in the development of automated composite manufacturing processes and propeller components.
5. Provide component inspection services and resulting data required to assess specification compliance for the propeller components manufactured.
6. Comply with NASA facility regulations, policies and guidelines while on NASA Ames Research Center, including, but not limited to, environmental, safety, and security standards.

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

Milestone	Estimated Completion Date
Joby to provide background propeller blade skin physical properties requirements	1 month after Effective Date
Joby to provide background composite material manufacturing process requirements	1 month after Effective Date
NASA to define facility modification requirements	2 months after Effective Date

NASA to complete facility modifications	4 months after Effective Date
Joby and NASA to implement and refine manufacturing process	6 months after Effective Date
Joby and NASA to manufacture prototype propeller blade skins	8 months after Effective Date
Joby to evaluate propeller blade skin properties	10 months after Effective Date
Joby and NASA to update composite material manufacturing process requirements	11 months after Effective Date
NASA to update facility modification requirements	11 months after Effective Date
NASA to complete additional facility modifications	14 months after Effective Date
Joby and NASA to implement and refine updated manufacturing process	16 months after Effective Date
Joby and NASA to manufacture updated prototype propeller blade skins	18 months after Effective Date
Joby and NASA to evaluate updated propeller blade skin properties	20 months after Effective Date
Joby and NASA to document results on the manufacturing process and publish joint technical paper on the manufacturing process	24 months after Effective Date

ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, (31 U.S.C. § 1341).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of two years.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data:

The Disclosing Party's Background Data, if any, will be identified in a separate document.

2. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate document.

3. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate document.

4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement:

None.

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or two years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

NASA Ames Research Center
Matt Holtrust
Agreement Manager
Mail Stop: 223-3, Room 100
Moffett Field, CA 94035
Phone: (650) 604-4069
matthew.j.holtrust@nasa.gov

Joby Aero, Inc.
Justin Lang
Partnership and Corporate Strategy
2155 Delaware Ave, Suite 225
Santa Cruz, CA 95060
Phone:
Email: Justin.Lang@joby.aero

Technical Points of Contact

NASA Ames Research Center

Jay Fletcher
Associate Director for Projects
Mail Stop: 211-5
Moffett Field, CA 94035
Phone: (650) 604-1846
jay.w.fletcher@nasa.gov

Joby Aero, Inc.

John Geriguís
Advanced Development Lead
2155 Delaware Ave, Suite 225
Santa Cruz, CA 95060
Phone:
Email: John.Geriguís@joby.aero

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

**NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
AMES RESEARCH CENTER**

JOBY AERO, INC.

BY: _____
Huy K. Tran
Director of Aeronautics

DocuSigned by:
BY:  _____
Name: Joe Brennan
Title: Composites manufacturing lead

DATE: _____

DATE: 5/25/2022